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THE DECLINE OF THE DALGITE (*MACROTIS LAGOTIS*) AND OTHER WILD LIFE IN THE AVON VALLEY

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When my parents purchased a farm on the Mortlock River five miles south of Northam in 1926, Western Australia was very much a developing state. The tractor was just taking over from the draft horse, the bulldozer had yet to appear on the scene and aerial topdressing had not emerged from the realm of science fiction. Scrub rollers could deal with mallee and sand plain, but forest country was still being cleared with an axe and the contractor received from 25/- to 30/- an acre to chop, stack and burn the stands of York gum (*Eucalyptus loxophleba*) and jam (*Acacia acuminata*) which were so characteristic of the Avon Valley. Sedan cars were a novelty and gravel roads were the norm, with the occasional grading being done by a length of railway iron dragged behind a truck.

Many new settlers ate more kangaroos than sheep and made pocket money from wattle bark, manna gum and a variety of skins. Kangaroo skins sold at about 3/- per lb., brush wallaby at about 1/6 per lb., "tammar and wallabies" at 8/- to 9/- per doz. and "cats and dalgites" at 1/- to 3/- per doz. (Anon., 1930).

Despite its attractive colour and softness Dalgite fur was not popular with the trade, partly because the pelts were very tender and partly because of a persistent musty odour. The then Premier, Sir James Mitchell, always alert to the possibility of exploiting any Western Australian product, told me that French firms had shown an interest in Dalgite skins, but had failed to find an efficient method of treating them. Sir James Mitchell himself had tried burying the skins for a few days, but reported that the odour still persisted.

Although agricultural development was being actively encouraged and the Wheatbelt was being systematically cleared, progress was relatively slow and large reservoirs of animals and plants remained in the undeveloped areas. In addition the wide and thickly vegetated road verges provided important corridors between the larger patches of bush.

The Avon River and its tributaries carried a broad screen of flood-gums (*Eucalyptus rudis*), and she-oaks (*Casuarina*) with dense thickets of paper bark (*Melaleuca*) along the banks and on many of the mid-stream islands, while the deep quiet pools and muddy shallows provided shelter and nesting sites for ducks and other water birds.

The green revolution, which has brought subterranean clover and grazing stock to the tops of the Avon Valley hills and the improved crops and pastures which now characterise the area, has destroyed much of the district's earlier charm and makes a mockery of the few remaining road signs luring the unsuspecting traveller to take the "Seenie Drive" to so and so.

In addition a "training programme" to prevent river flooding which involved bulldozing along the main bed of the Avon River has destroyed much vegetation from Beverley to Toodyay and according to old residents has caused the silting up of many deep holes. Certainly, pools such as "Burlong" and "Egoline", which contained large mullet and had long been used for swimming when I first lived at Northam, have almost disappeared since the programme was put into operation.

The most conspicuous alterations in the countryside are open paddocks and sparsely clad hills, but changes to the bird and mammal populations have also been far reaching and often disastrous.

The actual bird list for the area has changed little, but many species have dropped in numbers and the Bustard and the Mallee Fowl may have disappeared entirely.

In 1926 rabbits were still scarce in the Northam district and the first fox was exhibited in a shop window about a year later. By contrast the burrows of the Dalgite or Rabbit-eared Bandicoot were quite common in the bush and could sometimes be found in cultivated paddocks.

In the early days of settlement the Dalgite was plentiful in what is now the Wheatbelt and no entirely satisfactory explanation has yet been presented for the population crash which occurred about 40 years ago. The late Bruce W. Leake of Kellerberrin has recorded the fluctuation of various Wheatbelt fauna, based on records kept by his father and himself since 1868. Leake (1961) stated that there was a run of dry years between 1895 and 1902 (with the exception of 1900) and that many marsupial populations declined over this period. He said that the Dalgite



Fig. 1.—A Dalgite haunt. The light patches around the base of the tree in the foreground were caused by the soil having been turned over by Dalgites in search of root-boring insect larvae.

had practically disappeared from the eastern Wheatbelt by about 1897, but that after 1915 many species began to return. He reported that in 1918, after three very wet winters, the Dalgite increased rapidly, but that by 1929 it had disappeared again.

Dalgites were quite common around Northam in 1926 and their scratchings in search of food could often be seen under jam trees and she-oaks. These scratchings could be distinguished easily from those of rabbits by their conical shape and greater depth. Although Dalgites fed mainly in the bush their scratchings and burrows were not uncommon in cultivated paddocks and in consequence most farmers regarded them as pests.

The Dalgite burrow has but one opening and usually descends in a spiral, often to a depth of about five feet. Bruce Leake recorded that the Aboriginal women had great difficulty in capturing Dalgites for food as the animals would dig as fast as their would be captors. My brother and I, working in relays, were no more successful than the Aboriginal women in digging Dalgites from their burrows and so I resorted to trapping. I padded the jaws of a rabbit trap and chose a freshly dug burrow near an orange tree only fifty yards from the homestead. Imagine my annoyance when I visited the trap at dawn next morning and found a Dalgite mauled and dead, presumably from the attacks of a fox or dog. Two more suffered a similar fate but at last I obtained a fine specimen which I kept for some time. At first the

animal was tempted with apples, grains of wheat, lucerne, lucerne roots, sods of green grass, carrots and in fact all the things which it was *supposed* to damage on the farm. It refused all these delicacies but it did eat bread and milk.

I then put a small mouse into the cage and an apparently lethargic Dalgite sprang into action. The mouse was promptly killed and eaten and from then on feeding was no problem. Mice and insects, particularly barbees, were relished, but earthworms were also acceptable and when natural food was scarce, raw meat was a satisfactory substitute.

As the Dalgite thrived so well in its wooden cage I decided to give the animal a large enclosure with an earthen floor which would provide natural conditions for burrowing. Only the door remained to be fitted when a sudden thunderstorm interrupted operations, but being anxious to see how my pet reacted to its new surroundings I popped the Dalgite into the enclosure, blocked the doorway with a bag and ran for cover. As I did so the farm dog hurried out to make an inspection and in a flash had forced aside the bag and killed the Dalgite before I could make a rescue. About that time another pet Dalgite was being kept by L. Glauert, then the curator of the W.A. Museum, but his studies also terminated rather suddenly, but under less tragic circumstances than mine. Glauert's Dalgite was kept in a cage indoors, but one night escaped and the only evidence of its presence was a large pile of sand by the hearth-stone in the kitchen. For several days Glauert obligingly carried out a couple of buckets of sand from the kitchen but the animal declined to be domesticated and finally dug its way under the foundations to freedom.

These two individuals were, as far as I am aware, the last South-west Dalgites to be kept in captivity and, of course, experience has now shown that they were the remnants of a vanishing race.

Although Bruce Leake showed that climate and disease could produce violent fluctuations in marsupial numbers the final disappearance of the Dalgite was probably hastened by the spread of the rabbit.

Undoubtedly wholesale clearing and perhaps the arrival of the fox played a part, but by the early 1930's rabbits were assuming plague proportions in many areas and massive control campaigns were enforced. These included not only property netting and poisoning with pollard and phosphorus (probably harmless to the Dalgite), but also burrow fumigation and warren ripping. Anything that looked like a rabbit burrow was treated and so the harmless Dalgite was a frequent, if unintended, victim.

These views are supported by J. F. Haddleton (1952), who stated that the Dalgite remained plentiful in the Katanning district until about 1935 when rabbit control was intensified. Although Dalgites have vanished from many of their former haunts colonies still survive in the North-west and in the Warburton Ranges. The animals are well adapted to arid conditions and may be able to make a last ditch stand in the dry interior. Their nocturnal habits and deep burrows are a protection from daytime extremes of temperature and the fact that plugs of soil are often found blocking the tunnels suggests that this is a further adaptation to reduce desiccation.

Recent observations in the Warburton Ranges (Smyth and Philpott, 1968) have shown that termites and ants often figure prominently in the Dalgite's diet, presumably because they are the commonest insects in the region, but the fact indicates yet another adaptation for life in the desert. Even the large rabbit-like ears may have a use in this connection for thin broad ears are found in the Fennee or Desert Fox of Africa and in several other desert animals. Schmidt-Neilsen (1964) suggests that these ears act as a kind of radiator, allowing the animal to lose heat from the expanded surface, which is very well supplied with blood vessels.

Brush Wallabies and Grey Kangaroos were, of course, still plentiful around Northam in the 1920's and 30's, and they still persist in various timbered areas but in greatly reduced numbers.

The Numbat (*Myrmecobius fasciatus*) was already scarce when I went to Northam, but night sightings in the head lights of a car were occasionally reported. Little information is available about the early population of the Numbat, but it must have been quite common in parts of the Wheatbelt as the following notes from Koorda (Best, 1930) indicate: "I have caught hundreds of Numbats and once made a cloak of 42 skins. I saw one recently but there are few about here now."

The only animals which I kept in captivity besides Dalgites were Echidnas (*Tachyglossus aculeatus*) which were widespread in the 1930's and can still be found in many timbered areas. None of my pets would feed on anything but termites and steadfastly refused to take ants or other substitutes, including egg flip, although subsequently I have seen many individuals drink this with apparent relish. Keeping up the food supply presented considerable difficulties and quite often I took the Echidna through the bush on horse back in search of termite mounds or infested logs. When offered a suitable nest the animal would quickly break through the earthen walls with its strong front claws and probe the exposed galleries with its long flickering tongue. Although the Echidna seemed unconcerned at dangling from my saddle in a sugar bag the horse was less phlegmatic and deeply resented the needle-like spines which occasionally pricked its flanks.

After several months convenient termite material became so scarce that the Echidna was released to fend for itself and soon after that I left the district.

Although stretches of bushland still remain in National Parks and Forestry and Fauna Reserves west of Toodyay, no worthwhile areas were set aside in the agricultural sections of the Avon Valley and so the early profusion of pink everlastings and golden jam blossoms is now replaced each spring by the pink of Cape Tulip (*Homeria spp.*) and a purple haze of Paterson's Curse (*Echium spp.*). Each year the road verges and the river banks lose more trees and the inexorable march of progress takes its toll.

Suggestions that much of the Avon Valley be declared an integrated National Park, as has been done with some rural areas in Britain, raise serious problems, but unless drastic action is taken soon, the Avon River will become little more than a drainage channel and the "Valley" will lose what remains of its original charm.

REFERENCES

- Anon., 1930. *Elders Weekly*, published by Elder Smith & Co., now Elders-GM., Perth.
Best, G., 1930. Personal communication.
Haddleton, J. F., 1952. *Katanning Pioneer*, p.88.
Leake, Bruce W., 1961. *Reminiscences*, privately published.
Leake, Bruce W., 1962. *Eastern Wheatbelt Wildlife*, p.50 privately published.
Schmidt-Nielsen, K., 1964. *Desert Animals*, Oxford at the Clarendon Press, p.137.
Smyth, D. R. & Philpott, C. M., 1968. A Field Study of the Rabbit Bandicoot, *Macrotis lagotis*, Marsupialia, from Central Western Australia. *Trans. Roy. Soc. S. Aust.*, 82: 9.

OBSERVATIONS ON THE WANDERER BUTTERFLY IN WESTERN AUSTRALIA

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SUMMARY

From populations of the Wanderer near Perth, information on breeding of the adult and behaviour of the larva were obtained. The effect of temperature on pupation time was determined under controlled conditions. Preliminary results conflict with theories proposed for the Monarch in North America.

INTRODUCTION

After its arrival in Australia about 1870 the Wanderer Butterfly, *Danaus plexippus plexippus*, spread rapidly on the mainland, flourishing best where introduced cotton plants, *Asclepias*, were abundant. J. Burton